Remedial Investigation/Feasibility Study Status Meeting Leviathan Mine Site December 1, 2017



Leviathan Mine Site - Safety Record



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ED 001709 00006045-00003



- Introductions
- Review 2017 RI/FS Accomplishments and status of RI/FS data collection
- Review RI/FS document schedule
- Discuss status of LEAN and path forward

2017 RI/FS Accomplishments

- * Work plan approvals received for remaining RI field work.
- * RI field work was completed in 2017 including:
- > >1,125 samples collected (representing ~3,136 field and ~19,759 laboratory parameters)
 - Monitoring: groundwater, surface water, storm water/snowmelt, source water, meteorological data, surface water/groundwater interaction in lower Leviathan Creek, and invertebrates.
 - Surface Water/Groundwater Interaction in upper Leviathan Creek
 - ✓ Reference mapping in upper Leviathan and Aspen creeks
 - Spring surface water sampling in the East Fork Carson River
 - ✓ River Ranch canal soil sample collection
 - √ Biomass data collection
 - ✓ Bioaccessibility soil sampling
 - ✓ Hydraulic testing
- * Interim RI reporting completed for:
- √ Groundwater
- ✓ Stream Sediment
- ✓ Floodplain Soil
- ✓ Reference Data and RTVs
- ✓ 2106 Database

5

2017 RI/FS Accomplishments

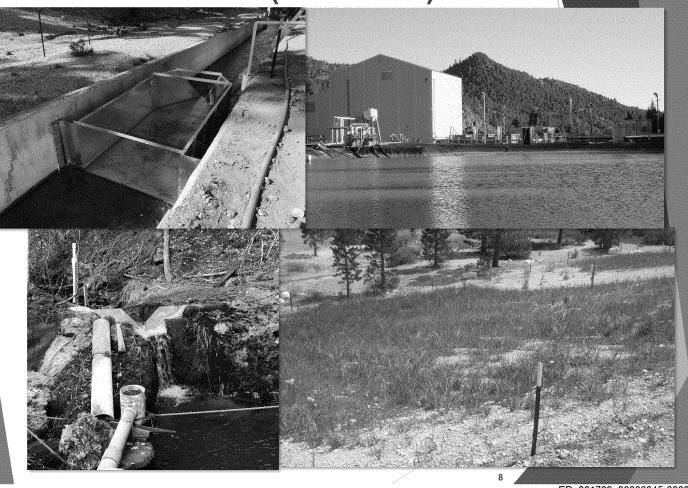
- * FS activities:
- > Geotechnical Investigation
- > Continued Revegetation Treatability Study Performance Monitoring
- > Full Scale Interim Combined Treatment Treatability Study Demonstration
- > Beaver Dam/Pond Complex Focus Feasibility Study
- > Sludge Stability Bench Testing
- * Other
- > Crusher Road Slope Instability Monitoring

2017 BD/PC FFS Site Photos

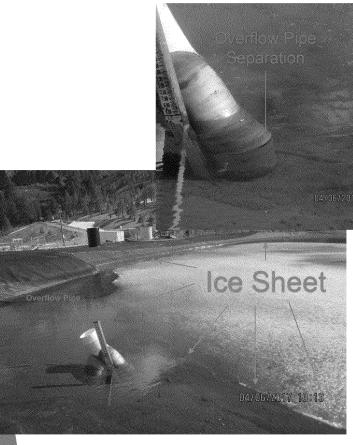




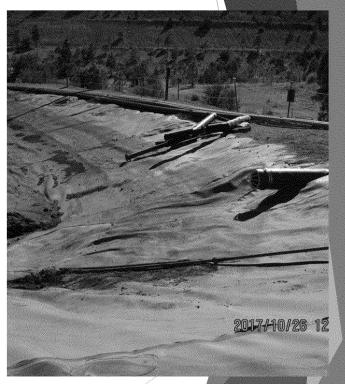
2017 Site Photos (continued)



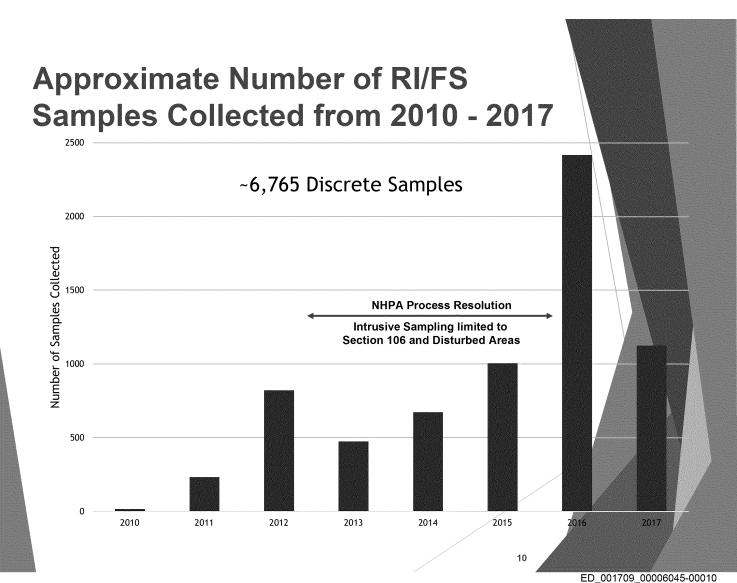
2017 Pond 4 Overflow Retrofit Photos



Initial discovery of damage to the Pond 4 overflow pipe discovery – April 6, 2017



Reconstructed overflow showing removal of original overflow configuration and liner repair – October 10, 2017



2017 RI Field Accomplishments – Field Data Collection Completed

		RI Data Collection Activity															
Study Area		Mapping/Field Verification	Drilling/Well Installation	Groundwater Monitoring	Mine Waste Soil Sampling	Floodplain Soil Sampling	Soil Sampling	Stream Sediment Sampling	Meteorological Monitoring	Surface Water Monitoring	Source Monitoring	SW / GW Interaction	Upper Tributary Characterization	Storm Water and Snowmelt Monitoring	Plant/Soil Sampling	Sediment Quality Triad	Fish Surveys and Sampling
On-Property Study Area		х	х	х	х	х	х	х	X	X	X	х	х	х	х	х	х
Off-Property Study Area	Downstream Study Area	х				х		х		Х					Х	х	Х
	River Ranch	х					х			х							
	East Fork Carson River	Х					Х			х						х	
	Ore Piles	Х					х										
	Leviathan Mine Road	х					х										
Reference Study Area		х	х	х		х	х	х		х				х	х	х	х

x = Task complete

2017 FS Field Accomplishments

FS Investigation/Study	Field Data Collection	Treatability Study	Monitoring
Geotechnical Investigation	Х		Х
Revegetation Treatability Study	Х	X	Х
Beaver Dam / Pond Complex	Х	Х	Х
Interim Combined Treatment	Х	Х	

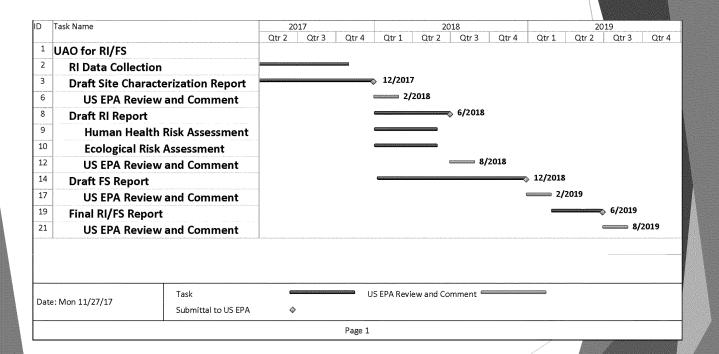
X = Task complete

12

RI/FS – Upcoming Documents

- Draft Site Characterization Report
 - > Surface Water and Acid Drainage TDSR
 - > Groundwater TDSR
 - Water Budget TDSR
 - ➣ Mine Waste TDSR
 - > Stream Sediment TDSR
 - > Floodplain Soil TDSR
 - > Plant-Soil Bioaccumulation TDSR
 - > Fish TDSR
 - > River Ranch TDSR
 - > Leviathan Mine Road and Ore Piles TDSR
 - East Fork Carson River TDSR
- * Interim Combined Acid Drainage Treatability Investigation Report
- 2016 Annual RI/FS Annual Summary Report
- 2017 Annual RI/FS Annual Summary Report
- Cultural Resources Monitoring Report for 2017
- Draft RI Report
 - > HHRA
 - ➤ ERA
- Draft FS Report
- Final RI/FS Report

RI/FS Schedule





- Atlantic Richfield's August 28, 2017 response to U.S.
 EPA's July 27, 2017 Letter "Acceptance of Atlantic Richfield Final Reference Area Work Plan, Revision No. 1 dated April 20, 2017"
 - > Use of the upper simultaneous limit (USL) statistic
- LRWQCB and Stakeholder Correspondence

LEAN

- * Status Update
- Discussion of path forward

